

Arresting ‘Development’ as Environmental Governance: An Empirical Assessment

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Abstract: Valuing ecology on the basis of its contributions to environment protection is getting less social acceptance in contemporary development governance. Although, there are multiple models and approaches to tackle the question of ecology, the development governance still prefers to put economic value on ecology. The use value of ecology is becoming an administrative instrument, which often undermines the environment. The impact of this changing perception of ecology is well reflected in natural resource governance. It has become an issue of satisfying individual needs rather than sustainable utilization of resources. This governance is heading towards the project of arresting development; indeed it is becoming an unacceptable solution.

Key words: Ecology, natural resource governance, individual rights, collective capacity, Kole wetland, development, arresting development.

Introduction

The term “governance” passes on, in general, to the relationship (economic, social and political) between a society and its government, or between an organization and its governing body. *Governance is not synonymous with government. Governance, in other words, is a more encompassing phenomenon than government. It embraces governmental institutions, but it also subsumes informal, non-governmental mechanisms whereby those persons and organisations within its purview move ahead, satisfy their needs and fulfill their wants* (Rosenau, 1992).

Governing Natural Resources

Governing natural resources in a liberal market-based social order often puts many challenges on the existing rules and regulations on natural resource governance. The major challenge is to ensure a wise use application of natural resources. Collective needs are getting unprecedented importance even in environmental governance. Thus, managing natural resources for

individual need through collective management got social and political legitimacy. There has been a complete shift from ecological importance to economic value addition in natural resources management. Indeed government is not the only agency which is responsible for such changes; the general public plays a major role in determining value of natural resources. A trade off has been established between the public use and ecology. However, fixing up values for such trade off is problematic. Consumption often is considered as the determining parameter.

Natural Resource and Development— The ‘Age Old’ Debate

Though it has been considered as an old debate, yet the debate is critically significant in the present scenario than ever before. Unlike before, the environmental protection laws are getting higher public attention, yet on the other hand there are structural violations of the laws by government and the public as well. The violation of environmental laws are increasingly being legitimised for development. The idea of environment and management

is more attached towards individual rights. Modus operandi of such management generally attached is to use value of resources such as individual interests. Focussing on individual rights is increasingly becoming an effective tool of development intervention.

This paper is about understanding ecology in the contemporary economic/use value discourse. The general understanding of ecology is that it serves to sustain life; however, this remains an idea itself and does not get reflected upon 'development governance'. Generally it assumes that society, individual and state have different views on resources utilization. i.e., if it affects her life she would fight for natural resources and if not it is generally assumed that individual would normally keep away from engaging with such issue. State is assumed to act in accordance with society's demands. This view could be considered as a classical perspective on natural resource management.

The study has taken one particular case to discuss the conflict over economic development by wise application of resources in Kerala, India. Overexploitations of a wetland have been selected to discuss the issue in detail. Kerala's public sphere seems to be very politically sensitized; however, the same political sensitivity is hardly inculcated in natural resource governance. The lack of protection to wetland ecology has not led any larger public concern in the state. Government is also not troubled by any social pressure to protect natural resources. This critical silence of the society, and how this consensus evolved at the grass root level are the focusses of this paper. Focus group discussion—the local community had conducted to analyze the public understanding—and Right To Information Act 2005 have been used to collect the data.

Theoretical Debate

Managing natural resources is increasingly becoming an issue of resources governance in both developed and developing societies. Hedonistic utilitarianism regards pleasure as the only good and pain as the only evil (Ewing, 1948). Utilitarianism could be defined as a tool to determine whether an action is right or wrong i.e. (a) the amount of good or evil it is likely to produce relative to that which its alternatives are likely to produce; and (b) the degree of probability of the production of each item of occurrence of a good or evil counting in its amount.

The model discussed by Pearce (2007) points out the importance of economic management of bio-diversity and natural resources. Eco-system is broadly defined as 'a

biotic community and it's a biotic environment' (Bennett and Krebs, 1994). Ecosystem usually generates flows of services to mankind and hence all ecosystem services have an economic value.

The model developed by Pearce discusses that $D_{ES,M}$ is the demand curve for ecosystem services. This demand curve is also represented as demand curve for the *commercial*, or *marketed*, services of ecosystems and natural resources, i.e. the association with already established market-based value system or exchange by using money as the medium. The curve $D_{ES,MNM}$ represents the demand curve for marketed (M) and non-marketed (NM) ecosystem services. The non-market services could be considered as the ecological significance of biodiversity or natural resources. The $D_{ES,MNM}$ always lies above $D_{ES,M}$ curve, because of the assumption that individual could hardly establish property rights over Ecological Services. The gap between $D_{ES,MNM}$ and $D_{ES,M}$ defines another concept that vast array of Ecological Services are not marketed. The model makes this argument based on the fact that 'if there were no unpolluted oceans, no forests, extremely high concentrations of greenhouse gases, then the willingness to pay for one more unit of Ecological Services would be extremely high'. This could be attributed to the ecological value and market capability as well.

The curves $M_{CES,G}$, $M_{CES,OC}$ and M_{CES} are marginal cost curves. $M_{CES,G}$ is the existing marginal cost curve which would be rising line unless there is an incident which shatters the entire cost of conservation. $M_{CES,OC}$ represents the marginal opportunity cost of ecosystem conservation. It is generally considered as equivalent to the forgone net benefits of ecosystem conversion, i.e. 'development'. According to the model the sum of $M_{CES,G}$ and $M_{CES,OC} = M_{CES}$ i.e. the marginal cost of conservation or conversion.

The curve ES_{OPT} shows the economically optimal level of ecological service provision, hence, any point to the left of ES_{OPT} has benefits of ecological service (area under $D_{ES,MNM}$) greater than the overall costs of their supply. The point between ES_{MIN} and ES_{OPT} is significant, since, these points define whether the ecological services are either *infinite* total benefits or *undefined* total benefits, depending on how the institutional structure utilize it (Bennett and Krebs, 1994). The optimum utilization of resource is based on certain given assumptions, for instance the impact of future demand over resources. This demand pattern would alter the public perception on resources and cost of services. This paper tries to revisit this model based on future demand and negative return

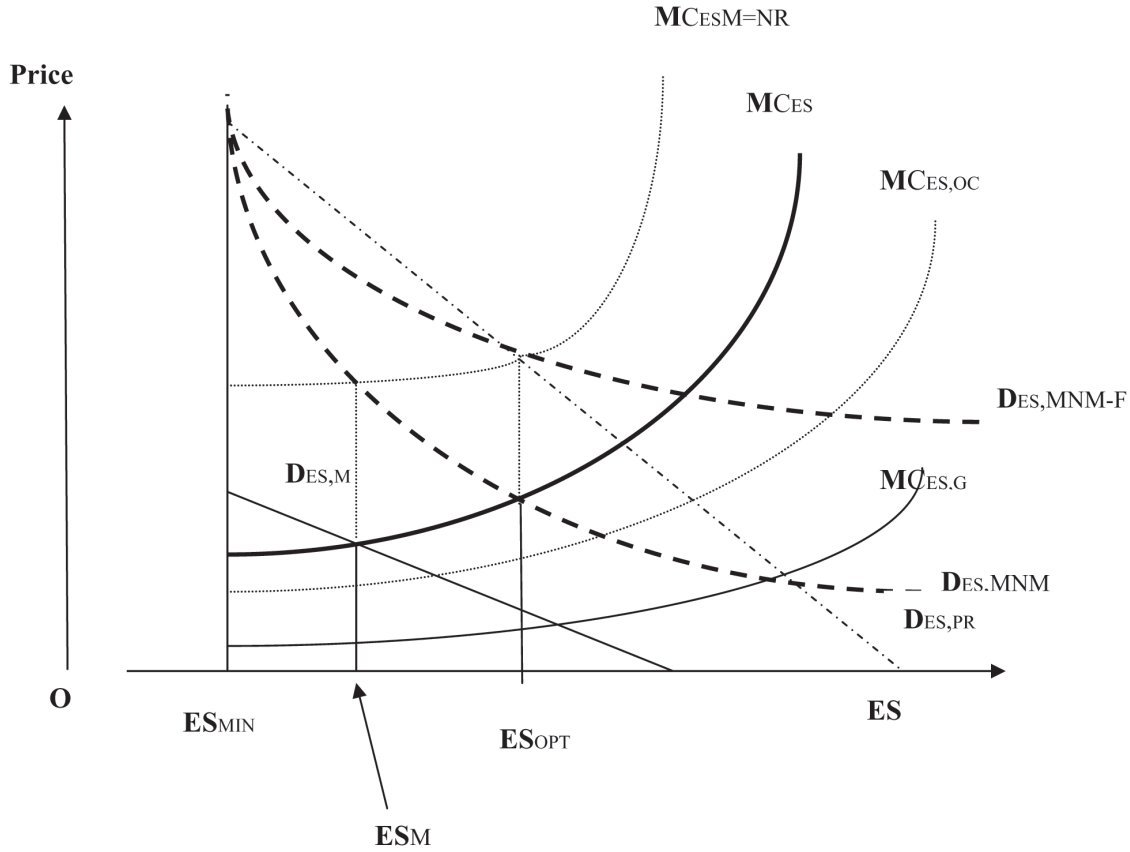


Figure 1: Pearce (2007) model of economic development used for Kerala in this paper.

to the resource. $D_{ES,MNM-F}$ curve is the future demand, $M_{CESM=NR}$ is the negative return due to overexploitation. $D_{ER,PR}$ is the situation where the people exert private right over natural resources.

The practical feasibility is in principle driven by the use value rather than ecological value. Classical economics defines value in terms of labour/cost and production; neo-classical economists locate it in marginal utility and consumption, i.e. scarcity and utility. In contrast to the pure theory of value, a sociological conception recognizes that market processes are not just relations between objects (commodities or inputs) represented by objective functions (demand, supply, utility, profit), but rather reflect relations between living human beings (Zafirovski, 2000). Individual interest is inculcated into social collectivism. However, alienation over the flow from their resources permits resources users, who can generate a higher net return from the CPR, in order to acquire a greater share of its benefit in use. Besides, by allowing individuals to reap the benefit of their individual decisions, private rights may encourage innovations (Grafton, 2000).

The innovation would limit into individual needs and preferences. The access to innovations model would be

in the form of either private ownership or de-regulation of state control. The interception between $M_{CESM=NR}$ and $D_{ES,MNM-F}$ explains the contemporary resource governance approach. The interception of $M_{CESM=NR}$ and $D_{ES,MNM-F}$ indicates the individual's rights over resources, unless the state check the interventions.

Background of the Paper/Case Study

Kole Wetland

The 'Kole lands', which form the rice granary of Thrissur and Malappuram districts, comprise a unique ecosystem in Kerala. In olden days, the Kole lands were reclaimed from the *kayal* (lake) area by putting up temporary earthen bunds and cultivation of rice was done by enterprising farmers during the summer period from December to May. The water pumped out from the fields was stored in a network of canals interspersed throughout the area. This water and the timely showers used to produce bumper crops, other conditions being favourable. Kole in Malayalam word indicates bumper yield or high returns in case floods did not damage the crop.

Wetlands are ecotones or transitional zones that occupy an intermediate position between dry land and open

water. Wetland ecosystems possess the characteristics of both terrestrial and aquatic ecosystems and properties that are uniquely of their own. Wetlands support a wide array of flora and fauna and deliver many ecological, climatic and societal functions. Scientists often refer to wetlands as the “kidneys” of the earth and forests as the “lungs” of the earth.

Agricultural Potential of the Kole Lands

The bed of Kole lands were formed with clay and silty materials washed down by rivers and streams and hence the area is very fertile. The area is covered by bunds and dewatered when one-time crop of paddy (*Punja* crop, summer) sow. During the remaining periods the area is submerged and hence no cultivation is done. A second crop (*Mundakan* crop) is also attempted by enterprising agriculturists in certain areas where additional bunds have been constructed. But this has been found to be very risky as the bunds get breached often and the area gets easily flooded up.

The government intervention towards higher rate of food production had started during 1960s. In 1969, Government of Kerala setup a feasibility study committee under the leadership of Dr S Vasudev, then Professor in the College of Engineering, Trivandrum. The committee was asked to look into the possibilities of constructing permanent bunds and other infrastructures to the Kole to increase the food production through multiple crop cultivation. His report contained proposals for permanent bunds in the Kole fields and for improving and widening the Kole canals with the objects of preventing the cultivable areas from becoming water-logged so that three crops of rice could be raised annually¹. Increase in the production in the Kole land necessitated irrigation scheme. Hence, there was a separate proposal to increase the irrigation facility. In 1971 the Public Work Department (Irrigation) prepared a revised report on improvement to the Kole lands by forming part of the Chimoni-Mupli Kole Project which was a comprehensive scheme covering an area of 20,200 hectares. According to this report, water for irrigating the Kole lands during summer was to be provided by the Chimoni Irrigation Project (*ibid*). The Government of Kerala initiated the first phase of Kole development project (1973-1998), which was aimed at developing infrastructure in the Kole land for higher output. The scheme had been implanted throughout the Kole as if it is a normal paddy field. The whole development process happened in the area and

did not pay any attention to the ‘eco-system’ of the Kole Wetland.

Kole Wetland is included in The Ramsar Cite. The Ramsar Convention (1971) which defined wetlands as: “areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salty including areas of marine water, the depth of which at low tide does not exceed 6 meters. It may also incorporate riparian and coastal zones adjacent to the wetlands and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands”. This reference shows the importance of wetland globally and how the local community and state consider it.

Ecology, State and Society

The first phase of Kole development project (1973-1998) was institutionally a successful venture. The Kole development project ensured construction of bunds in such a way as to prevent flooding of the Kole lands during the north-east monsoon. Two crops were proposed to be raised in the Kole area, one during the north-east monsoon season from September to December and the other during summer from January to May when there were dearth of water for the summer crop. To provide irrigation during the period, a total quantity of 133 Mm³ of water was needed. Construction of a dam across Chimoni river adjacent to the Kole was expected to store water for the season. This is known as the Chimoni Reservoir Project and it was one of the major infrastructures development in the Kole Development Project. During the first phase of the project, non-farm activities had been extensive in the Kole area. Following were the major activities and it is still continuing in some areas.

Brick Making

Initially the paddy fields near the river beds in midlands of Thrissur districts were chosen to set up brick making industry. Bricks were made with clay in paddy fields and burnt at the field site. Majority of agriculture workers, especially women, turned to brick industry as they were provided with higher wages. In some places like Puthur, east of Thrissur district, the paddy fields are now lying below the river bed level which is an ecological threat to the survival of the river (Manali) itself. Apart from that the fields adjoining the brick making fields are forced to abandon their agriculture practice due to water shortage

¹Kole Development Project Report, Agriculture Department, Thrissur, Kerala.

and water logging. Brick making industry has already flourished in the surrounding areas of Kole fields; the places like Nedumbal in Southern Kole fields, Chenam and Parappur in Northern Kole fields are all converted into brick field. The real ecological imbalance caused by brick making is not studied in detail. However certain points are noted. Most of the wetlands are abandoned after several years of clay mining. Some portions are converted into banana plantations, coconut plantations etc. by filling the land with laterite soil mined from ecologically sensitive spur hills.

Bund Road and Bridges

Every Kole 'padavu (land) farming society' and *Panchayath* (local self government) is bargaining for bund roads and bridges across the Kole fields. Infact, it seems that this is the only way to being labelled as 'development friendly' among the public². There are three connecting roads, such as Thrissur to Guruvayoor, Thrissur to Triparyar and Thrissur to Irinjalakuda, passing across the wetland (including Kole field) of Thrissur district. Large scale agricultural infrastructures also put pressure on Kole land, for instance the transportation of fertilizers, seeds and straw bundles etc. are done by mini trucks (tempos). For this the small bunds built aside the canal system are widened with laterite soil deposited mined from adjacent ecologically sensitive spur hills. Transportation in bullock carts and country boats are rare in the Kole fields. Slowly the mud paths are converted to permanent roads with concrete bridges across the canals. The rationale of this large scale conversion of mud roads to permanent roads are access to market i.e. reduce the time to reach the Thrissur town and, from there to other local markets.

Agricultural Production in the Kole Area

The total Kole area was 11,000 acres of which 7000 acres were exclusively for puncha cultivation³. There is no exact source to refer the period in which the cultivation started in Mooriyad area. The total area can be divided into three categories:

- (a) *Viripu*: These lands are adjacent to the normal land. Along with paddy many other crops were cultivated. Rainwater were stored in the *Viripu* land and this water had been used for cultivation in other areas. The local community is more attached to the *Viripu*

period owing to the availability of water in wells and other natural ponds. The local farmers and residents get sufficient quantity of water during this season. This paper is not an attempt to prove this with any scientific analysis, hence, the local experiences are given its due priority.

- (b) Mundakan: Land below the *Viripu* land is called Mundakan land. The sand in the Mundakan area is clay in nature, which later becomes a component of traditional brickline manufacture. Later large scale clay mining began to concentrate in the area.
- (c) Puncha lands: This is the most fertile land in the Mooriyad area. The clay mud in the area is mixed with fertile soil flow from the hills. Even without applying any fertilizer the Punch area can produce 300 to 450 *para/acre*.

Figures 2 and 3 are important for both the first phase of Kole development project. The figures tell that production in Puncha and Mundakan Kole land are declining. The decline in production occurred during the first phase of Kole development project. The decline in production has significant implications on the ecology of Kole land. The first phase of Kole development project was not successful with regard to production.

The paradox is visible, for instance there had been a large scale clay mining and put land on fallow occurred in the area during the same period. However, this public perception is also a product of land ownership. Those who are having other livelihood opportunities other than agriculture have preferred clay mining, yet, a section of marginal farmers stand for farming. This led people's movement in Kole called Mooriyad struggle. The Mooriyad struggle is for restoring the ecology of 7000 acre Kole wetland in the Thrissur Kole area. The following are the demands of the struggle:

- (a) Infrastructure development at the Mooriyad and adjacent land for sustainable agriculture
- (b) Total ban of sand and clay mining in the Mooriyad
- (c) Complete the construction of KLDC canal immediately
- (d) Separate paddy development agency exclusively for the area with full government support
- (e) Construction of adequate bunds to clear the hill water flows into the wetlands
- (f) Compensation for both crop failure and negligence not committed by farmers

²I have been told by the local self government and officials of Kole farm society that this is the best available option for agricultural development.

³Kole Development Project Report, Agriculture Department, Thrissur, Kerala.

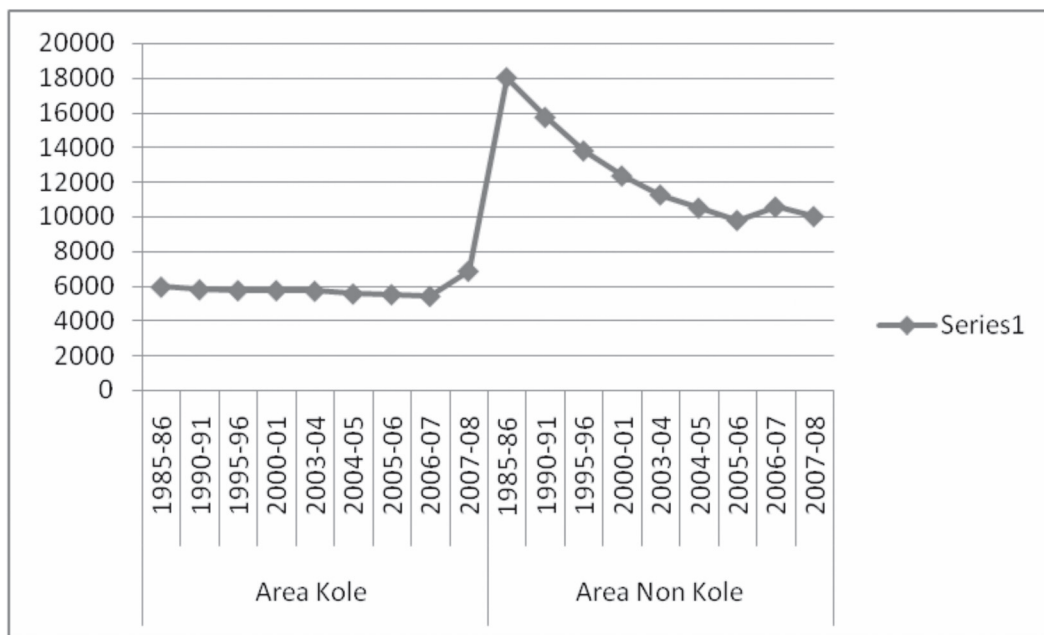


Figure 2: Production in Mundakan-Kole and Non-Kole.

Source: IDDP report from Kole Development Project Report, Agriculture Department, Thrissur, Kerala.

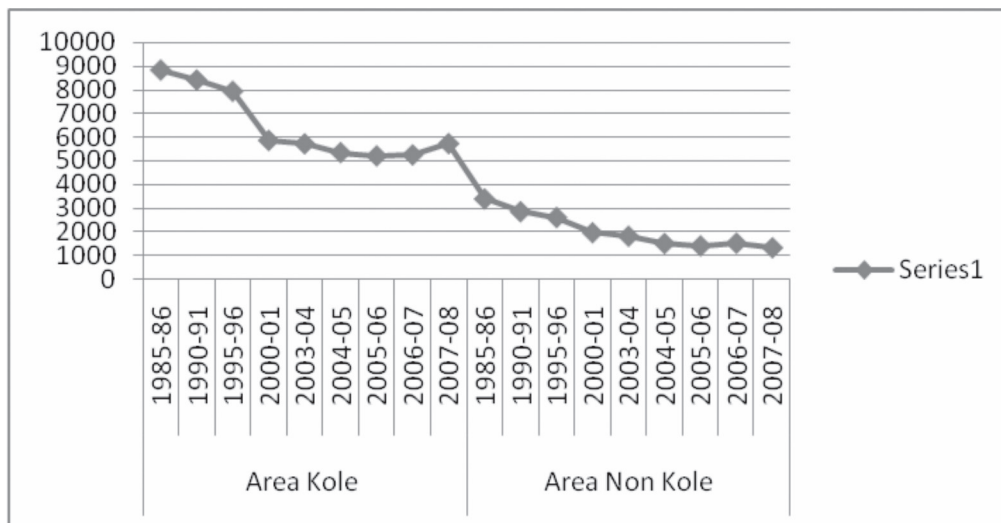


Figure 3: Production in Puncha-Kole and Non-ole.

Source: IDDP report from Kole Development Project Report, Agriculture Department, Thrissur, Kerala.

- (g) Creation of centralized agency comprising the activities of Kole development agency, Kole advisory board, KLDC, Kerala land use board, Irrigation, PWD, Agriculture⁴

The demands and the movement in the Mooriyad had unprecedented impacts in farming sector of Kerala. Lack of amenities forced the farmers to put the land fallow rather than cultivation.

⁴Karshaka Munnettam: Muriyad Farmer's Movement's bulletin.

Mooriyad struggle was infact an endogenous one. The struggle had wider civil society support, yet the local people who are having land in the wetland had stay back from supporting the struggle⁵. Indeed the price of normal land is higher than paddy land across the state, yet, the price of Kole land is equal to normal land. The companies were purchasing the land for clay mining.

The soul of the Murriyad struggle was the support of the local marginal farmers, for instance, according to Mr Anto, a farmer cum auto-rickshaw driver, *"I never paid money for rice in my life...and I will not pay. I have 40 para kadam which is sufficient for me to meet my family's one year's rice requirement...I am ready to fight the end"*. Mr. Kunjan Pulayan, infact one of the leaders of the struggle, had contested in 2009 Parliament Election to register his protest. The implication of the struggle was that it led the enactment of The Kerala Conservation of Paddy Land and Wetland Act, 2008. The act has many limitations e.g. land below five cents are exempted and as of now no case has been registered against the violation of this act.

However, if we look at the entire demands of the Mooriyad struggle, infact these again fall in the economic use of Kole land. The most significant impact of the struggle was that it helps stop clay mining in the Mooriyad area. The strugglers ask for government support to continue with farming, and wanted infrastructure development. This is infact a replacement of Kole development project, whatever the ecological implication of the first phase would carry over. As far as the government is concerned the people demands are part of government policy, except clay mining. The second phase of Kole development project which started in 2009 proved this⁶. The scheme was also expected to increase the production; it initiated two-time cropping in the Kole area. It was an un-economic project; the cost of production of second cropping is high⁷. The Kole cooperative societies are getting additional government support to overcome cost escalation of second crop.

The fertility of Kole is considered as taken for granted, this is the reason why state directly implemented state's environmental governance. Demand for paddy is socially acceptable and existing governing institutions are capable to carry it over.

The government has no plan of putting off development intervention in the Kole land. For instance, the Union Ministry of Agriculture has accepted a Rs. 4250 million project for the comprehensive development of Ponnani-Thrissur Kole fields⁸. According to the report the money would be spent for agricultural infrastructure development in the Kole area. The report indicates the continuation of Kole development project and neglecting the ecology of the Kole.

Discussion

Though the Panchayat (local self government) had not issued any licenses for clay mining⁹, the companies did not face any legal challenges till the local resistance rose up. In both cases sustainable development is treated as a foregone idea. Individual's participation as a user is effectively incorporated in these schemes. The larger implication of this crisis is the conversion of common pool resources into private resources. In the case of Kole area the infrastructure developments projects paved way for legitimizing private right over the land, and the public ownership has shifted from the idea of collective to user groups i.e. ensuring private rights. The existing development models like participatory approach to supply driven approaches are seemingly insignificant to Kole area.

Arresting development is the possible solution to restore the ecology of Kole; however, this idea will not get its due support in the contemporary development practices. Individuals having economic capacity would finally take control over resources; and which later become 'contribution to ecology' i.e. individual economic capacity determine the eco system services. The idea of

⁵I had an interaction with a 70 years old farmer having three acres of land in the Kole area. According to him the Murriyad struggle and its leader hampered his land deal with a clay mining company. As far as this farmer is concerned, Murriyad struggle is detrimental to his economic interest on Kole land.

⁶Paddy and Fish Production project by Government of Kerala agricultural department.

⁷Account Document of Cooperative Farming Society, in Kole land.

⁸The Hindu daily, February 24, 2012.

⁹Reply to RTI application seeking the details of companies and individuals were given license for mining, four Local self government replied by stating that they have not given license to anybody for mining. RTI-3-6828/11 dated 05-01-2012; C-7613/11 dated 16/01/2012; 4-C-8312/11 dated 13-01-2012.

sustainable development has lost its due institutional credibility in Kole Wetland area. The current practice is economically sustainable as long as government ensures subsidy to farmers. This paper suggest a total arrest of development activities in the area to check the ecological de-gradation, however, the local farmers and state are not in a position to think over it. So, what would be the nature of environmental governance?

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